June 9, 1931. E. E. HART 1,809,121

WINDOW SASH AND FRAME

Filed Oct. 5, 1929

Fig. 1.

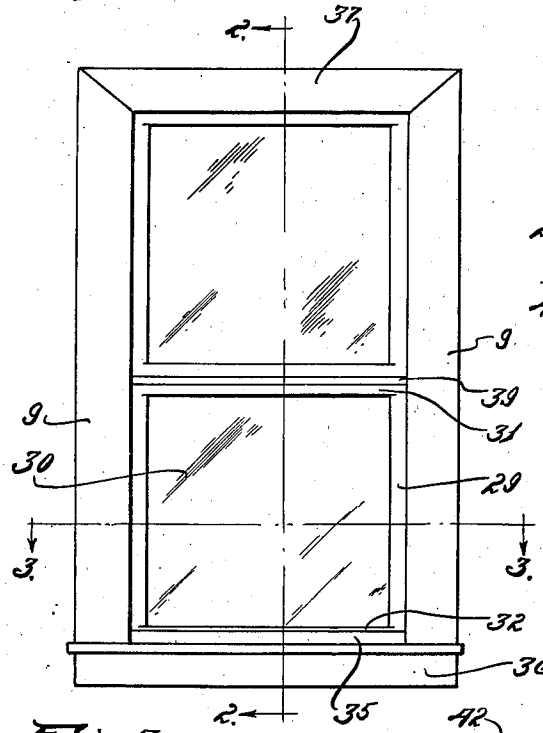


Fig. 2.

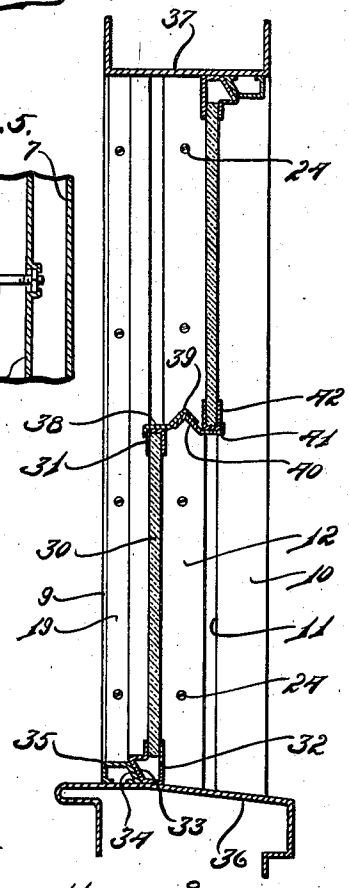


Fig. 5.

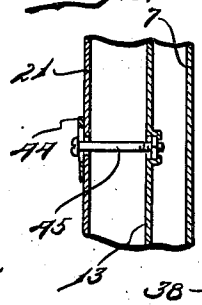


Fig. 4.

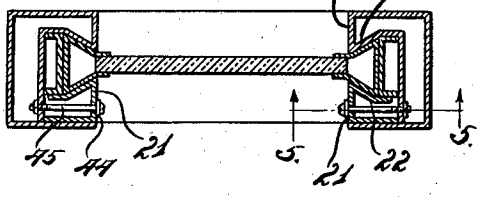
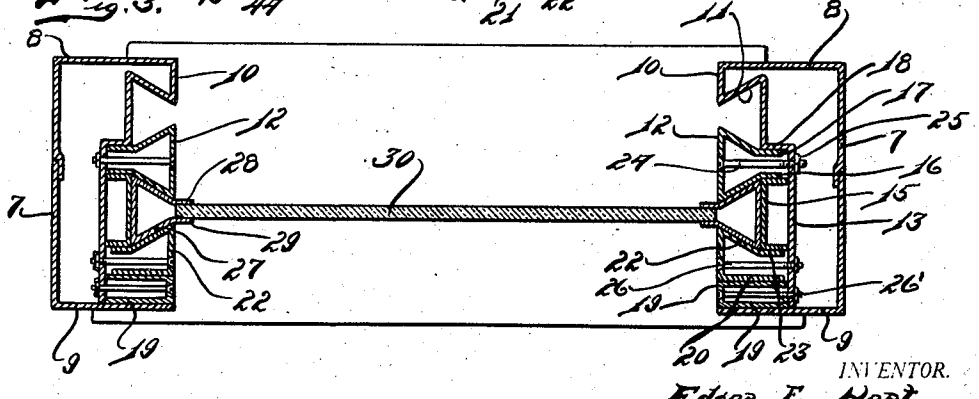


Fig. 3.



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UNITED STATES PATENT OFFICE

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WINDOW SASH AND FRAME

Application filed October 5, 1929. Serial No. 397,481.

My invention relates to a new and useful improvement in a window sash and frame and has for its object the provision of a window sash and frame whereby a tight connection between the sash and the frame may be easily and quickly effected.

Another object of the invention is the provision of a window sash and frame whereby the position of the various parts may be adjusted so that a take up for wear is provided and a tight fitting of the parts maintained at all times.

Another object of the invention is the provision of a window sash and frame which will be simple in structure, economical of manufacture, and highly efficient in use.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts hereinafter described and claimed.

The invention will be best understood by a reference to the accompanying drawings which form a part of this specification and in which,

Fig. 1 is a front elevational view of the invention.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a view taken on line 3—3 of Fig. 1.

Fig. 4 is a sectional view similar to Fig. 3 showing a modified form of the invention.

Fig. 5 is a fragmentary sectional view taken on line 5—5 of Fig. 4.

The frame and sash are preferably made from metal and the frame is formed hollow with the rear wall 7 and the side walls 8 and 9. The front wall 10 is inwardly offset to form with the wedge shaped locking or adjusting strip 12 the dovetailed groove or recess 11 and in said portion 13 is provided for engagement with the U shaped strip 15 which engages at one side the angularly turned side portion 16 of the wedge or adjusting strip 12. An angularly turned portion 17 on the opposite side of the wedge or adjusting strip 12 engages the angularly turned portion 18 of the wall 10.

A retaining strip 19 is mounted in engagement with the portion 13 and engages the side 20 of the adjusting strip 21, the opposite side of which has the inclined portion 22 and the portion 23 extending parallel with the wall or side 20 and engaging one face of the U shaped strip 15. A bolt 24 is projected through the adjusting strip 12 and threaded into a nut 25 positioned rearwardly of the portion 13. A similar adjusting bolt 26 is projected through the adjusting strip 21.

The window sash is formed with side walls comprising a wedge shaped portion 27 having the angularly turned ends 28 and 29 which are spaced apart and embrace the window pane 30. The top rail 31 is formed U shaped to embrace the window pane 30, and the bottom rail 32 is formed U shaped with the inclined side wall 33 engaging the inclined side wall 34 of the sill strip 35 which rests upon the sill 36 formed from U shaped metal. The top 37 is also formed from U shaped metal.

Secured to the top rail 31 is a metallic strip 38 having the V portion 39 engaging with the V portion 40 on the strip 41 which is mounted on the bottom rail 42 of the upper window. The top rail of this upper window is of the same formation as the bottom rail of the co-operating window.

In operation, the windows are slidably mounted in the frame in the usual manner and move relatively to each other. Weights and cords may be used with the windows in the usual manner if desired but by properly adjusting the strips 12 frictional engagement of the side rails of the window in the dovetailed grooves may be such that the use of cords and weights may be dispensed with.

It is to be noted that the ends of the portions 16 and 17 of the adjusting strips are spaced from the portion 13 so that when the window surfaces wear through use, this strip may be moved inwardly to afford the necessary adjustment to assure a tight fit. Similarly, all rattling of the window sash in the frame may be thus prevented. The V members 39 and 40 through their engagement will serve as effective weather strips so that an efficient mounting of the window for prevention of drafts and the like is provided.

In the form shown in Fig. 4 the frame is provided with the projection 42 having the inclined side wall 43 co-operating with the inclined side wall 22 of the adjusting strip 21. A wedge 44 is slidably mounted on the bolt 45 which projects through the adjusting strip 21 so that a quick adjustment and tightening of the various parts may be effected. This type of construction lends itself well to the mounting of windows in vehicle bodies and serves as an effective means of eliminating the rattle commonly present in the window mountings.

While I have illustrated and described the preferred form of my invention, I do not wish to limit myself to the precise details of structure shown, but desire to avail myself of such variations and modifications as may come within the scope of the appended claims.

Having thus described my invention what I claim is new and desire to secure by Letters Patent is:

1. A window sash and frame of the class described comprising a sash having side walls inwardly offset at their inner face, said inwardly offset portion having an inclined side wall; and a movable wedge-shaped adjusting strip having its opposite side walls inclined, one of said side walls cooperating with the inclined side wall of said sash to provide a dovetailed groove; and a window frame having wedge-shaped side walls engageable in said dove-tailed groove and slidable therein.

2. A window sash and frame of the class described comprising a sash having side walls inwardly offset at their inner face, said inwardly offset portion having an inclined side wall; and a movable wedge-shaped adjusting strip having its opposite side walls inclined, one of said side walls cooperating with the inclined side wall of said sash to provide a dove-tailed groove; a window frame having wedge-shaped side walls engageable in said dove-tailed groove and slidable therein; and means for moving said adjusting strip inwardly and outwardly for bearing the same against the inclined surfaces of said window rails.

3. A window sash and frame of the class described comprising a frame having its opposite side walls inwardly offset and provided with an inclined face; a movable wedge-shaped adjusting strip having its opposite faces inclined, one of said opposite faces cooperating with said inclined face to provide a dove-tailed groove; a retaining strip mounted on the side walls of said frame and having one of its faces directed towards said adjusting strip and inclined for cooperating therewith to provide an additional dove-tailed groove; a window sash having opposite side rails wedge-shaped and slidably mounted in said grooves; and means for moving said adjusting strip inwardly and outwardly for adjusting the friction of the same against said rail.

4. A window sash and frame of the class described comprising a frame having its opposite side walls inwardly offset and provided with an inclined face; a movable wedge-shaped adjusting strip having its opposite faces inclined, one of said opposite faces cooperating with said inclined face to provide a dove-tailed groove; a retaining strip mounted on the side walls of said frame and having one of its faces directed towards said adjusting strip and inclined for cooperating therewith to provide an additional dove-tailed groove; a window sash having opposite side rails wedge-shaped and slidably mounted in said grooves; means for moving said adjusting strip inwardly and outwardly for adjusting the friction of the same against said rail; and means for moving said retaining strip inwardly and outwardly for adjusting the friction of same on said rail.

5. A window sash and frame of the class described, comprising: a sash having side walls inwardly offset at their inner face, said inwardly offset portion having an inclined side wall; and a movable wedge-shaped adjusting strip having its opposite side walls inclined, one of said side walls co-operating with the inclined side wall of said sash to provide a dove-tailed groove; a window frame having wedge-shaped side walls engageable in said dove-tailed groove and slidable therein; and means for moving said adjusting strip inwardly and outwardly for bearing the same against the inclined surfaces of said window rails; and an angularly turned portion on said adjusting strip and serving as a guide portion in the movements of said strip.

In testimony whereof I have signed the foregoing specification.

EDGAR E. HART.